

## Cass County members get green light to control energy use

**B**y using off-the-shelf technology to give members more control over their energy use, Cass County Electric Cooperative has created a successful—and award-winning—demand response program.

Cass County's Incremental Pricing Plan (IPP), recognized for innovative application of technology by the Peak Load Management Alliance in 2009, alerts participants when power prices change. In response, members can choose to reduce their use, initiate backup power systems or pay a higher price.

### Customers pick price

The IPP is based on three time zones that correlate to system conditions. In the green zone, times of normal demand, members pay an off-peak energy rate. The yellow zone represents peak conditions but does not require load management.

Members may reduce their demand, switch to their backup power systems or pay the higher prices. The red zone is a critical peak period that calls for members to either curtail their electrical loads or pay the high demand charge. "We only see the red zone for 20 to 25 hours during each season," said Paul Matthys, Cass County energy management & conservation advisor.

The program is available to the Fargo, N.D.-based cooperative's commercial and agricultural members who are on the Minnkota Power transmission system. Cass County installs a ripple receiver on the utility side of the member's meter that receives a signal from Minnkota, the co-op's wholesaler, when demand climbs to a higher pricing zone. The signal sets off the notification system the member has chosen. "IPP members can get their notice by e-mail, text or alarm—whatever suits their particular business situation," Matthys said.

The portable alarm box is one option favored by customers who are not sitting at a computer. For a small fee, customers can get an LED signal that plugs into any outlet to flash a green, yellow or red light to alert members to changing demand and pricing. The unit can be customized to announce signals with a loud horn, too. All of the equipment used in the program is tried-and-true, demand-



**This portable alarm box, with green, yellow and red signals, communicates electricity pricing changes to customers who may not be able to receive the information by computer or phone. (Photo by Cass County Electric Cooperative)**

response technology, which Cass County installs.

### Deregulate, innovate

High energy prices sparked by deregulation drove Cass County to develop its innovative take on demand response in 2003. As the cost of power on the open grid spiked, so did the utility's use of backup generators during peak periods to keep costs down. About 160 C&I and agricultural customers receive off-peak prices for using their diesel generators during peak demand.

Cass County found that it was relying on the generators between 200 and 300 hours per season—almost 10 times as often as the average 30 to 35 hours before deregulation. Members saw their savings eaten away as diesel prices, too, went up. "That particular

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# WINDPOWER 2010 looks forward

Coming off of a record year for wind project development, WINDPOWER 2010, May 23 through 26 in Dallas, Texas, promises plenty of excitement, with an eye on the future.

No doubt there will be a certain amount of celebration, since 2009 saw the installation of more than 10,000 MW of new wind generating capacity. That's a 39 percent expansion of the nation's wind fleet to a total generating capacity of more than 35,000 MW. However, with growth come new questions and challenges: How does the industry maintain its momentum in a climate of technical, economic and political change? What does this growth mean to utilities?

Looking for answers or better yet, creating them, is how the wind industry will "Power America Forward," the 2010 conference theme. "Thanks to the Recovery Act provisions, many wind projects were able to move forward last year in spite of the economy," said Jeff Anthony, director of Business Development for the American Wind Energy Association. "It's important now to build on that



momentum. A national renewable energy standard is a high priority, not just for wind, but for all clean energy resources."

This year's speakers include a wide range of experts in policy, technology, economics, transmission and more. President George W. Bush—who, as governor, signed the Texas Renewable Energy Mandate in 1999—will speak at the general session on Tuesday, May 25. U.S. Senator Byron Dorgan (D-ND) is the latest general session speaker to be added to the agenda and others will be announced in the weeks leading up to WINDPOWER 2010.

## Education in wind

With 60 Educational Sessions, attendees will learn the latest about wind industry business, technology and policy.

Start your wind education early with pre-conference seminars on Sunday, May 23. Utility professionals will be interested in the all-day workshop, Green Grid—Integrating Large Scale Wind. This seminar looks at strategic aspects of implementing a smart transmission infrastructure, with examples from Denmark and regions of the United States with significant levels of wind integration.

The educational tracks kick off Monday, May 24, at 10:30 a.m. The Monday sessions are organized under the headings of project development, finance, policy, technology, "Wind 101" and utility issues.

A particular highlight Monday will be a "Power Session" entitled Utility Involvement in the Wind Energy Industry. Power Sessions feature invited speakers. According to session organizer and WINDPOWER Co-chair Stephen Krebs, the goal of the utility Power Session is to have the audience better understand utilities and the way they do business in the wind space.

The Monday morning utility tracks also include a session focusing on major issues facing electric utilities, including state renewable portfolio standard compliance, utility ownership versus power purchase agreements and managing wind integration costs. During the afternoon sessions, attendees will hear from four of the nation's leading utilities for wind power. Representatives from Los Angeles Department of Water & Power, Xcel Energy, Alliant Energy and Nebraska Public Power District will describe their experiences with wind energy deployment.

The scientific sessions have been expanded this year to two days, Tuesday and Wednesday, to give attendees more technical details and further information from industry experts. For the first time ever, the scientific session papers will be presented in scientific proceedings from the conference.

The Technical Challenges Power

*See WINDPOWER 2010 page 3*

## Energy Services Bulletin

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**Designer:** Grant Kuhn

## WINDPOWER 2010

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Session will look at the experience of other industries and what wind industry members can learn from them. Mike McMullen, director of West Regional Operations at the Midwest Independent Transmission System Operator, will be on hand to share the perspective from a grid operator control room.

### Connect with colleagues

Everyone knows there is more to conferences—especially the annual WINDPOWER conferences—than sitting in sessions. Attendees come to talk one-on-one with experts and peers, to form partnerships or to discover the equipment or service

that will make their project work.

A packed schedule of networking and social events provides plenty of opportunity to meet friends and make plans, but you don't have to leave meetings to chance. Use the online registration list of companies to find out if your clients will be represented at WINDPOWER 2010.

The exhibit hall continues to be a conference highlight with companies and organizations representing every facet of the industry. Attendees with an interest in research and technology can explore new ideas at the Monday night poster reception, while those in need of new employees can check out the WINDPOWER Job Fair.

You can help build the wind work force by playing in the 2010

Scholarship Golf Open, Sunday, May 22. Proceeds benefit the American Wind Energy Association's Educational Scholarship Fund, created to allow students and others to attend AWEA educational events. The Wind Foundation Fundraiser, May 24, offers another opportunity to network and support a good cause, when Elvis Costello plays a private concert at the House of Blues.

Or you can help "Power America Forward" simply by registering for WINDPOWER 2010. The conference revenues are invested in advancing wind industry policy and promotion, advocating for the wind industry in renewable energy legislation and communicating the benefits of wind energy to the public. ⚡

**Want to know more?**

Visit [www.wapa.gov/es/pubs/esb/2010/may/may102.htm](http://www.wapa.gov/es/pubs/esb/2010/may/may102.htm)

## Cass County *from page 1*

load management strategy had about reached its limit," Matthys recalled.

The answer lay in giving members the flexibility and information to take control of their own energy consumption. By telling consumers what they are paying for power in quarter-hour intervals, the IPP has reduced generator runtime by 80 percent and saved participants money in power costs and diesel fuel.

Almost 700 members currently participate in the popular program, and Matthys noted that there is

plenty of room for growth. "Our key account representatives do rate comparisons to show customers how much they will save on the pricing plan."

### History of cooperation

Of course, it helps that Cass County has more than 30 years experience in load management programs. The co-op implemented its first program in 1976 and is now able to control nearly fifty percent of its total system load. Controlled systems include heating and air conditioning, water heaters, grain conditioning, irrigation pumps and diesel generators at commercial and industrial facilities.

It couldn't be done without customer trust, either, added Jeremy Mahowald, Cass County's manager of energy management and conservation. "Our members trust us to keep their power costs as low as possible, and that is what we do."

Utilities that haven't tried demand response may find that giving customers the chance to help keep power costs down is a great way to build trust. The Incremental Pricing Plan shows that a strong customer relationship can be your greatest resource. ⚡

**Want to know more?**

Visit [www.wapa.gov/es/pubs/esb/2010/may/may101.htm](http://www.wapa.gov/es/pubs/esb/2010/may/may101.htm)

# Breaking News invites Western customers to talk back

**H**ave you ever seen a story in Energy Services Bulletin or Breaking News that gave you an idea you wanted to share, not just with the editor, but with all of our readers? Starting in May, you will be able to have your say on our new Breaking News page.

“The people with the best ideas for meeting the challenges utilities must face are the ones who are doing it on a daily basis—our customers,” explained Energy Services Manager Ron Horstman. “Adding an interactive component to Breaking News will give them a forum to share their wealth of expertise and experience.”

Speaking of “forum,” Energy Services will be launching the interactive Breaking News format at the Utility Energy Forum, May 5-7, in Tahoe City, Calif. Look for summaries of the sessions, along with interviews and commentary from Energy Services representatives and Western customers in attendance. “The Utility Energy Forum stirs up creativity and gets people excited about collaboration, so it’s a good place to introduce a tool that will keep that energy going throughout the year,” Horstman said.

## Keeping up

The “comment” section where you can share your thoughts is only the most noticeable change aimed at building conversation between Western and our customers. Readers can expect more timely news on programs, policies and technologies to help utilities manage their energy resources. Initially, the topics will aim for broad interest, but ultimately,

customers’ interests and concerns will guide the content.

Most of all, the stories are intended to generate discussion, and lots of it. We want to know what our customers consider their most pressing issues, and what Western can do to help. Breaking News will give you a place to talk about energy management challenges, strategies that work, or don’t, why and how they might work. Readers will be able to share links to resources they have found helpful, and to link their comments to their own Web sites and social media streams.

More and more, consumers are using social media to voice their opinions about products and services. Energy Services is joining utilities like Tri-State Generation and Transmission, Omaha Public Power District and Colorado Springs Utilities that listen to those voices to figure out how to better meet their customers’ needs.

## Join the conversation

It takes time to build traffic for a new Web function, and this is where Western customers come in. Start by setting up an RSS feed so you get notices of news updates from the Utility Energy Forum. You might simply choose to visit Breaking News when you have a spare moment during the day (Do utility professionals have spare moments?). Scan the stories for topics that interest you—Breaking News will continue to offer concise articles rather than feature length stories—and give your input.

When you post a comment, e-mail a link to co-workers and colleagues who might have something to add

from their perspective. If the story might be useful to your customers, share it on your Web site, Facebook page or Twitter feed if you have one. You could also include the URL in your customer newsletter, since we welcome comments from end-use consumers as well. Sharing links is a good way to build cross traffic to your Web site and social media streams.

There is no need to register to participate in the Breaking News forum. Just fill in your name, an e-mail address (which will not be published), an optional Web site and your comment. The general public as well as utility professionals are welcomed to share their views; however, reporters’ and vendors’ comments will not be posted. The rules of civility apply—posts should stick to the topic at hand; disagreement is fine, but personal attacks will be removed from the page. Feel free to support your views with links to additional sources. See our comment policy for more information.

Like the Utility Energy Forum, interactive Breaking News is about power providers sharing their ideas for reaching a goal—providing consumers with affordable, reliable and sustainable power. In other words, it is about building community. Thanks to the Internet, you don’t have to let the realities of budget and work load keep you from meeting your neighbors in that community. Join us for our coverage of the Utility Energy Forum May 5, and stick around to have your say the rest of the year. ⚡

Want to know more?

Visit [www.wapa.gov/es/pubs/esb/2010/may/may103.htm](http://www.wapa.gov/es/pubs/esb/2010/may/may103.htm)





**Editor's note:** *The Energy Services Bulletin features real answers to real questions posed to our staff at the Energy Experts Hotline. We hope you find it useful.*

**G**rowing season is here, so the Energy Experts look at resources to help utilities improve energy efficiency for agricultural customers.

### Question:

Do you have information on how to perform an energy audit for a farm?

### Answer:

Since there is a wealth of information, the following list just scratches the surface, but includes some of the most useful resources.

### Tools, publications, etc.

A recent study, *Farm Energy Calculators: Evaluations and Recommendations* (400 kb pdf), June 2009, by the National Center for Appropriate Technology (NCAT), lists tools available to help in the auditing process.

Several recent presentations look at the topic of farm energy audits:

- *Farm Energy Audit Workshop* (2.4 MB pdf) Western Mountains Alliance; Skowhegan, Maine; May 14, 2008. AJ Ballard, Efficiency Maine Energy Consultant.
- *Poultry Farm Energy Audits & Alternative Energy Sources* (456 kb pdf) Pellet Fuels Conference Summer 2008.

Richard Drewry (USDA RC&D), Jim Wimberly (BioEnergy Systems), Dr. Tom Costello (UA Biological & Agricultural Engineering.)

- *Results from On-Farm Energy Audits* (1 MB pdf) Growing the Margins Conference 2008. Steve Clarke, Ontario Ministry of Agriculture; Food and Rural Affairs.
- *Tapping into Energy Efficiency Funding on the Farm* (1.8 MB pdf) Growing the Margins Conference 2009. Steve Clarke, Ontario Ministry of Agriculture; Food and Rural Affairs.

These reference books look at different aspects of audits:

- *Dairy Farm Energy Management Handbook* (665 kb pdf) Wisconsin Department of Agriculture; Trade and Consumer Protection; Madison, Wis.
- *Farmstead Energy Audit* (6.8 MB pdf) AE-1366 North Dakota State University Extension Service; Fargo, N.D.; June 2008.
- *Farm Energy Audits: Availability, Usefulness, and Cost* (858 kb pdf) National Center for Appropriate Technology; Sept. 2009.

### On the Web

The Conservation Engineering Division of the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) has a wealth of information on energy conservation. Another resource from the NRCS is the Electronic

Field Office Technical Guide. NRCS also has information on irrigation.

The National Sustainable Agriculture Information Service (ATTRA) has excellent resources related to farm energy savings, as does the Energy Experts Web site, managed by the Washington State University (WSU) Extension Energy Program. The WSU site has a searchable database of agricultural articles and resources.

### Question:

How can our utility get local farmers to "buy into" energy-efficient agriculture?

### Answer:

There are many examples of farmers successfully reducing energy use and several resources available to farmers interested in energy-efficient agriculture. The bottom line is that using less energy on the farm saves dollars—and that just makes good sense.

Sometimes, however, it is necessary to invest money to get energy savings. Utility rebate programs can be a great help. See the Utility Options Database, sponsored by Western, for examples of programs some utilities are offering customers. Here are some samples:

- Wisconsin Coop Uses Low-Earth Orbit Satellites to Manage Service to Irrigators
- Montana Utility Offers Irrigation Energy Conservation Program

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*See ASK THE ENERGY EXPERTS page 7*

## Web site of the month:

# H<sub>2</sub>Ouse

**T**he season is fast approaching when the demand for water is at its peak, so water providers will find this month's feature website—H<sub>2</sub>Ouse—particularly interesting.

Western's municipal utility customers in California may already be familiar with the website developed by the California Urban Water Conservation Council to help consumers use water more efficiently. However, many tips and tools on H<sub>2</sub>Ouse apply to any area where water resources are occasionally constrained—in other words, the West.

### Taking action

The home page gets right to the point with a link to the Top 5 Actions visitors can take to save water at home. Each action links to more information both within the site and to other websites.

For a room-by-room water conservation strategy, visitors can take the interactive Home Tour. A blue print linking to the bathroom, kitchen, laundry, patio, landscaping, basement and water meter shows opportunities in each room. The tour connects you to information about water and energy savings, costs and benefits and more. There are also tips for buying, installing and maintaining water systems, most of which is not region-specific.

### Educate consumers, staff

With both energy and water, a little knowledge goes a long way toward getting consumers to change their habits, and utilities will find plenty of educational resources on H<sub>2</sub>Ouse.

If your utility encourages customers to read their own meters, put a link on your website to How to Read Your Water Meter. The primer includes step-by-step instructions, as well as an explanation of why customers should know how to read and compare daily use.

Customers aren't the only ones who can expand their knowledge of water use and delivery through the glossary, library and bookstore. There are plenty of publications and information that member services representatives and program planners will find valuable.

The links page is a comprehensive listing of websites covering a broad array of topics. Many of the sites are sponsored by state and municipal governments and universities throughout the country. There are also links to Federal water conservation organizations and to research institutes, laboratories and networks.

### Beyond California

The Latest News is an archive of H<sub>2</sub>Ouse newsletters, some of which target California audiences. However, topics like leaky faucets



**Although the H<sub>2</sub>Ouse Website promotes Best Management Practices for efficient use of water in urban areas of California, it is an excellent resource for consumers and utilities throughout the West. (Artwork by H<sub>2</sub>Ouse)**

and dual-flush toilets are relevant to consumers and water providers everywhere. The newsletter on drought has links that can help utilities, especially those in the West, keep up with hydrological conditions. Landscaping articles may not be applicable for your region, but can be a good source of ideas for your own bill stuffers and website. ⚡

**Want to know more?**

**Visit [www.wapa.gov/es/pubs/esb/2010/may/may105.htm](http://www.wapa.gov/es/pubs/esb/2010/may/may105.htm)**

## Ask the energy experts *from page 5*

Southern California Edison (SCE) has been performing free efficiency tests on customers' water pumping systems for quite some time. Their pump-testing program has evolved over the years, and has become very successful. Two case studies by SCE, *Dairies Test New Fans For Cooling Cows* (520 kb pdf) and *VFDs Save Energy in Milking Vacuum Systems* (216 kb pdf), offer examples of farmers saving energy through conservation.

### Question:

What's the latest on energy-efficient pumping systems for agriculture applications?

### Answer:

The following resources address energy-efficient pumping systems for agriculture, including examples of rebate programs:

- *Solving Problems with Photovoltaic Water Pumping* (4 MB pdf), Oregon Office of Energy.
- *On-Farm Irrigation: Irrigation Pumping Plants* (10 kb pdf)

- *Using Solar Energy to Pump Water for Livestock in Remote Areas* (12 kb pdf)
- *Solar-Powered Livestock Watering Systems* (142 kb pdf)

Consider subscribing to *Agricultural Newsbriefs*, compiled by WSU Extension Energy Program. This free, bi-monthly electronic newsletter focuses on news, technologies, events, publications, and funding related to energy in agriculture. ⚡

Want to know more?

Visit [www.wapa.gov/es/pubs/esb/2010/may/may104.htm](http://www.wapa.gov/es/pubs/esb/2010/may/may104.htm)

## Calendar of events

To access registration links, visit [www.wapa.gov/es/pubs.esb/2010/may/may10coe.htm](http://www.wapa.gov/es/pubs.esb/2010/may/may10coe.htm).

- May 4-6** 2010 International Biomass Conference and Expo; Minneapolis, MN. Contact: BBI International; phone: 701-746-8385; register online.
- May 5-7** Utility Energy Forum; Lake Tahoe, CA. Contact: Randy Martin; phone: 970-219-2605; register online.
- May 6** Easy Ways to Save Energy Now – Take Care of those Steam Traps; webinar, 2-3 p.m. Contact: Mardann Olsen; phone: 410-997-7778 ext. 251.
- May 11-12** Sustainable Manufacturing Summit, Chicago, IL.
- May 12-14** 2010 ACEEE Hot Water Forum; Ontario, CA. Contact: Lori Nachman; register online.
- May 17-22** ASES National Conference Solar 2010; Phoenix, AZ. Contact: Becky Campbell-Howe; phone: 303-443-3130 ext. 103; register online.
- May 18-19** Second Solar Conference for Utilities Only; Denver, CO. Phone: 202-559-2023; register online.
- May 20-21** Energy Efficiency Finance Forum; Chicago, IL. Phone: 704-341-2439; fax: 704-341-2641; register online.
- May 24-27** Energy Risk USA; Houston, TX. Contact: Sarika Mehta; phone: +44-0-20-7968- 4551; fax: +44-0-20-7504-3730; register online.
- May 26** Demand-Side Management Technology Workshop: Advances in Water Heating Technologies; Bismarck, ND. Register online.
- June 3** Advanced Metering Requirements and Best Practices; free webinar, 1:30 p.m. EDT. Contact: Joe Konrade; phone: 202-586-8039; register online.

# Have your say!

Energy Services Breaking News  
is now interactive.



Share your ideas, opinions and experiences with Western customers at the new URL, **<http://esnews.wapa.gov>**.

Bookmark the page and join the conversation.

## Demand-side Management Technology Workshop: Advances in Water Heating Technologies

May 26, 2010  
Bismarck, N.D.  
8 a.m. – 4 p.m.

Country Inns and Suites  
3205 North 14th Street  
Bismarck, ND 58501

### This workshop will feature:

- Water Heater Jeopardy!
- Successful utility program case studies
- Technology overviews
- Strategies to streamline program design, marketing, implementation and tracking

### Who should attend?

- Member services managers
- Energy program planners
- Contractors

### Registration:

Western customer utility staff: \$50/person  
All others: \$100/person  
(Includes printed materials, continental breakfast and lunch)

### Register online at:

<http://www.johnsonconsults.com/calendar/register.asp?CalendarID=35>

### Sponsored by:

Basin Electric Power Cooperative  
Western Area Power Administration



### Lodging:

Country Inns and Suites  
3205 North 14th Street  
Bismarck, ND 58501  
701-258-4200